

CLAIMS

1. A coding device comprising:

an evaluation section for deciding, on the basis of the characteristics of an image signal having a plurality of pixel data, the coding order for the plurality of pixel data; and

a coding section for coding the plurality of pixel data in the order decided by the evaluation section.

2. The coding device as claimed in claim 1, wherein the evaluation section selects pixel data having a strong correlation with respect to a given noted pixel data, from the plurality of pixel data, and decides the selected pixel data as pixel data next to the noted pixel data.

3. The coding device as claimed in claim 1, wherein the evaluation section evaluates the characteristics of the image signal on the basis of a plurality of pixel data included in a predetermined range.

4. The coding device as claimed in claim 3, wherein the predetermined range is the same frame or field.

5. The coding device as claimed in claim 4, wherein the predetermined range is in the same macroblock in the same frame or field.

6. The coding device as claimed in claim 3, wherein the pixel data includes level data indicating the signal level.

7. The coding device as claimed in claim 6, wherein the pixel data includes

position data indicating the position in the predetermined range.

8. The coding device as claimed in claim 7, wherein the evaluation section selects pixel data having a strong correlation on the basis of the level data and the position data of each pixel data in the predetermined range.

9. The coding device as claimed in claim 8, wherein the image signal is a color image signal, and the level data includes a plurality of component data so that a color image is expressed by the plurality of component data.

10. The coding device as claimed in claim 9, wherein the evaluation section selects pixel data having a strong correlation with respect to the noted pixel data, from the plurality of pixel data, on the basis of the correlation between the position data and respective component data of the noted pixel data on one hand and the position data and respective component data of each pixel data in the predetermined range on the other hand.

11. The coding device as claimed in claim 1, wherein the coding section differentially codes the plurality of pixel data in the order decided by the evaluation section.

12. The coding device as claimed in claim 1, further comprising a macroblock splitting section for splitting the image signal into a plurality of macroblocks, wherein the evaluation section decides the coding order for the plurality of image data in each macroblock, for each macroblock.

13. The coding device as claimed in claim 1, further comprising a decimation

section for decimating pixel data of a part of the image signal, wherein the evaluation section decides the coding order for the image signal from which the pixel data of a part thereof is decimated by the decimation section.

14. A decoding device for decoding, from a plurality of coded pixel data generated by coding an image signal made up of a plurality of pixel data having a predetermined order in an order based on the characteristics thereof, the plurality of pixel data having the predetermined order, the device comprising:

a position data extraction section for extracting position data included in each of the plurality of coded pixel data;

a level data extraction section for extracting level data included in each of the plurality of coded pixel data; and

a conversion section for converting the level data of the plurality of coded pixel data to the predetermined order on the basis of the position data.

15. The decoding device as claimed in claim 14, wherein the plurality of coded pixel data is coded in an order based on the characteristics for each predetermined range.

16. The decoding device as claimed in claim 15, wherein the predetermined range is the same frame or field.

17. The decoding device as claimed in claim 16, wherein the predetermined range is in the same macroblock in the same frame or field.

18. The decoding device as claimed in claim 14, wherein the coded pixel data is

differentially coded in the predetermined order, the position data extraction section carries out differential decoding, thereby extracting the position data included in each of the plurality of coded pixel data, and the level data extraction section carries out differential decoding, thereby extracting the level data included in each of the plurality of coded pixel data.

19. The decoding device as claimed in claim 14, wherein the coded pixel data has the coding order decided therefor after a part of the plurality of pixel data having the predetermined order is decimated, the device further comprising an interpolation processing section for carrying out pixel interpolation processing with respect to the pixel data converted to the predetermined order by the conversion section.

20. A coding method comprising:

... a step of deciding, on the basis of the characteristics of an image signal having a plurality of pixel data, the coding order of the plurality of pixel data; and
... a step of coding the plurality of pixel data in the order decided at the step of deciding.

21. The coding method as claimed in claim 20, wherein the step of deciding includes a step of selecting pixel data having a strong correlation with respect to a given noted pixel data, from the plurality of pixel data, and deciding the selected pixel data as pixel data next to the noted pixel data.

22. The coding method as claimed in claim 20, wherein at the step of deciding, the characteristics of the image signal are evaluated on the basis of a plurality of pixel data

included in a predetermined range.

23. The coding method as claimed in claim 22, wherein the predetermined range is the same frame or field.

24. The coding method as claimed in claim 23, wherein the predetermined range is in the same macroblock in the same frame or field.

25. The coding method as claimed in claim 22, wherein the pixel data includes level data indicating the signal level.

26. The coding method as claimed in claim 25, wherein the pixel data includes position data indicating the position in the predetermined range.

27. The coding method as claimed in claim 26, wherein at the step of deciding, pixel data having a strong correlation is selected on the basis of the level data and the position data of each pixel data in the predetermined range.

28. The coding method as claimed in claim 27, wherein the image signal is a color image signal, and the level data includes a plurality of component data so that a color image is expressed by the plurality of component data.

29. The coding method as claimed in claim 28, wherein at the step of deciding, pixel data having a strong correlation with respect to the noted pixel data is selected from the plurality of pixel data, on the basis of the correlation between the position data and respective component data of the noted pixel data on one hand and the position data and respective component data of each pixel data in the predetermined range on the other hand.

30. The coding method as claimed in claim 20, wherein at the step of coding, the plurality of pixel data are differentially coded in the decided order.

31. The coding method as claimed in claim 20, further comprising a step of splitting the image signal into a plurality of macroblocks, wherein at the step of deciding, the coding order for the plurality of image data in each macroblock is decided for each macroblock.

32. The coding method as claimed in claim 20, further comprising a step of decimating pixel data of a part of the image signal, wherein at the step of deciding, the coding order for the image signal from which the pixel data of a part thereof is decimated by the decimation section is decided.

33. A decoding method for decoding, from a plurality of coded pixel data generated by coding an image signal made up of a plurality of pixel data having a predetermined order in an order based on the characteristics thereof, the plurality of pixel data having the predetermined order, the method comprising:

 a step of extracting position data included in each of the plurality of coded pixel data;

 a step of extracting level data included in each of the plurality of coded pixel data; and

 a step of converting the level data of the plurality of coded pixel data to the predetermined order on the basis of the position data.

34. The decoding method as claimed in claim 33, wherein the plurality of coded

pixel data is coded in an order based on the characteristics for each predetermined range.

35. The decoding method as claimed in claim 34, wherein the predetermined range is the same frame or field.

36. The decoding method as claimed in claim 35, wherein the predetermined range is in the same macroblock in the same frame or field.

37. The decoding method as claimed in claim 33, wherein the coded pixel data is differentially coded in the predetermined order, and wherein at the step of extracting the position data, differential decoding is carried out, thereby extracting the position data included in each of the plurality of coded pixel data, and at the step of extracting the level data, differential decoding is carried out, thereby extracting the level data included in each of the plurality of coded pixel data.

38. The decoding method as claimed in claim 33, wherein the coded pixel data has the coding order decided therefor after a part of the plurality of pixel data having the predetermined order is decimated, the method further comprising a step of carrying out pixel interpolation processing with respect to the pixel data converted to the predetermined order at the conversion step.